

IN THE CLAIMS

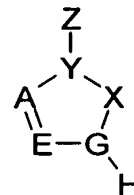
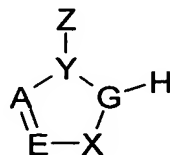
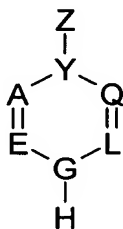
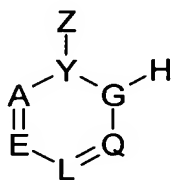
Please amend the claims as follows:

Claim 1 (Currently Amended): A process for free-radical polymerization in the presence of a regulator, ~~which comprises using, as wherein said~~ regulator comprises, a carbocyclic or heterocyclic ~~compounds~~ compound which ~~contain~~ comprises a leaving group in the allyl or heteroallyl position, or homoallyl or homoheteroallyl position, respectively, ~~where these compounds~~ wherein said carbocyclic or heterocyclic compound, following free-radical hydrogen abstraction, ~~form~~ forms an aromatic system with elimination of a free-radical leaving group.

Claim 2 (Currently Amended): ~~A~~ The process as claimed in claim 1, wherein the aromatic system which forms is an optionally substituted phenyl, pyridine, pyridazine, pyrimidine, pyrazine, pyran, thiopyran, pyrrole, pyrazole, imidazole, furan, oxazole, isoxazole, thiophene, thiazol or isothiazol.

Claim 3 (Currently Amended): ~~A~~ The process as claimed in claim 1, wherein the leaving group is a carboxylate, silyl, sulfonyl, aryl, benzyl, allyl or alkyl group.

Claim 4 (Currently Amended): ~~A~~ The process as claimed in ~~claims 1 to 3~~ claim 1, wherein the regulator ~~chosen~~ is at least one compound from the formulae (I), (II), (III) or (IV)



in which

A is C-R¹, N,

E is C-R², N,

L is C-R³, N,

Q is C-R⁴, N,

where

R¹-R⁴ independently of one another are hydrogen, C₁-C₁₀-alkyl, C₁-C₁₀-alkoxy, C₁-C₁₀-alkylamino, C₂-C₂₀-dialkylamino, C₁-C₁₀-alkylcarbonyl, C₁-C₁₀-alkylsulfonyl, C₂-C₁₀-alkenyl, C₂-C₁₀-alkynyl, in which at least two of the radicals R¹-R⁴ may be joined together to give a 3- to 8-membered ring,

G is C-R⁵, N,

where R⁵ is hydrogen, C₁-C₁₀-alkyl,

X is O, N-R⁶, S,

where R⁶ is hydrogen, C₁-C₁₀-alkoxy, C₁-C₁₀-alkylamino, C₂-C₂₀-dialkylamino, C₁-C₁₀-alkylcarbonyl, C₁-C₁₀-alkylsulfonyl,

Y is C-R⁷, N,

where R⁷ is hydrogen, carboxyl, C₁-C₁₀-alkyl, C₁-C₁₀-alkoxy, C₁-C₁₀-alkylcarbonyl, C₁-C₁₀-alkoxycarbonyl, C₁-C₁₀-alkylaminocarbonyl, C₂-C₂₀-dialkylaminocarbonyl, C₁-C₁₀-alkylcarbonyloxy, C₁-C₁₀-alkylcarbonylamino, C₁-C₁₀-alkylsulfonyl, C₁-C₁₀-alkoxysulfonyl, C₁-C₁₀-alkylaminosulfonyl, C₂-C₂₀-dialkylaminosulfonyl, C₁-C₁₀-acyl, C₂-C₁₀-alkenyl, C₃-C₁₀-alkenyloxy, C₂-C₁₀-alkenylcarbonyl, C₃-C₁₀-alkenyloxycarbonyl, C₃-C₁₀-alkenylaminocarbonyl, C₂-C₁₀-alkenylcarbonyloxy, C₂-C₁₀-alkenylcarbonylamino, C₂-C₁₀-alkenylsulfonyl, C₃-C₁₀-alkenyloxysulfonyl, C₃-C₁₀-alkenylaminosulfonyl, C₂-C₁₀-alkynyl, C₃-C₁₀-alkynyloxy, C₂-C₁₀-alkynylcarbonyl, C₃-C₁₀-alkynyloxycarbonyl, C₃-C₁₀-alkynylaminocarbonyl, C₂-C₁₀-

alkynylcarbonyloxy, C₂-C₁₀-alkynylcarbonylamino, C₂-C₁₀-alkynylsulfonyl, C₃-C₁₀-alkynyloxysulfonyl, C₃-C₁₀-alkynylaminosulfonyl, C₃-C₁₂-cycloalkyl, C₃-C₁₂-cycloalkoxy, C₃-C₁₂-cycloalkylcarbonyl, C₃-C₁₂-cycloalkoxycarbonyl, C₃-C₁₂-cycloalkylaminocarbonyl, C₃-C₁₂-cycloalkylcarbonyloxy, C₃-C₁₂-cycloalkylcarbonylamino, C₃-C₁₂-cycloalkylsulfonyl, C₃-C₁₂-cycloalkoxysulfonyl, C₃-C₁₂-cycloalkylaminosulfonyl, aryl, aryloxy, arylcarbonyl, aryloxy carbonyl, arylaminocarbonyl, arylcarbonyloxy, arylcarbonylamino, arylsulfonyl, aryloxysulfonyl, arylaminosulfonyl,

Z is COOR⁸, SiR⁹R¹⁰R¹¹, SO₂R¹², aryl, optionally substituted benzyl, C₃-C₁₀-2-alken-1-yl, R¹³

where

R⁸, R¹³ are C₁-C₁₀-alkyl,

R⁹-R¹¹ independently of one another are hydrogen, C₁-C₁₀-alkyl, in which two of the radicals R⁹-R¹¹ may be joined together to give a 3- to 8-membered ring, R¹² is hydrogen, C₁-C₁₀-alkyl,

with the proviso that a maximum of 2 heteroatoms are in the ring of the heterocyclic compound.

Claim 5 (Currently Amended): A The process as claimed in ~~claims 1 to 4~~ claim 1, wherein the regulator ~~used~~ is cyclohexadienecarboxylic acid optionally substituted by C₁-C₄-alkyl radicals as R⁷, methyl cyclohexadienecarboxylate, ethyl cyclohexadienecarboxylate, dihydrofurancarboxylic acid, methyl dihydrofurancarboxylate and/or ethyl dihydrofurancarboxylate.

Claim 6 (Currently Amended): A The process as claimed in ~~claims 1 to 5~~ claim 1, wherein the regulator ~~used~~ is methyl 1-methyl-2,5-cyclohexadiene-1-carboxylate, 1-

isopropyl-2,5-cyclohexadiene-1-carboxylic acid, 1-tert-butyl-2,5-cyclohexadiene-1-carboxylic acid, 1-benzyl-2,5-cyclohexadiene-1-carboxylic acid, 1-allyl-2,5-cyclohexadiene-1-carboxylic acid and/or 1-cyanomethyl-2,5-cyclohexadiene-1-carboxylic acid.

Claim 7 (Currently Amended): ~~A~~ The process as claimed in ~~claims 1 to 6~~ claim 1, wherein 0.01 to 5% by weight of regulator, based on the total amount of monomers, is used.

Claim 8 (Currently Amended): ~~A~~ The process as claimed in ~~claims 1 to 7~~ claim 1, wherein the regulator is ~~used~~ utilized in emulsion, micro emulsion, miniemulsion, suspension, microsuspension, minisuspension, precipitation, bulk and/or in solution polymerizations.

Claim 9 (Currently Amended): ~~A~~ The process as claimed in ~~claims 1 to 8~~ claim 1, wherein homopolymers and/or copolymers are prepared.

Claim 10 (Currently Amended): ~~A~~ The process as claimed in ~~claims 1 to 9~~ claim 9, wherein the homopolymers and/or copolymers are prepared from free-radically polymerizable monomers comprising ~~used are~~ monoethylenically unsaturated C₃-C₆-carboxylic acids, C₁-C₂₀-(meth)acrylic esters, amides and nitriles, vinyl esters of carboxylic acids containing up to 20 carbon atoms, vinylaromatics having up to 20 carbon atoms, vinyl halides, vinyl ethers of alcohols containing 1 to 10 carbon atoms, aliphatic optionally halogenated hydrocarbons having 2 to 8 carbon atoms and 1 or 2 double bonds, open-chain N-vinylamide compounds, vinylidenes or mixtures of these monomers.

Claim 11 (Currently Amended): ~~The use of the compounds of the formulae (I), (II), (III) or (IV) as claimed in claim 3 as regulators~~ A method for regulating a free-radical polymerization reaction comprising utilizing the compounds of formulae (I), (II), (III) or (IV) as polymerization reaction regulators.